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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,606	02/06/2002	Ernest Rogers		6819

7590 08/14/2003

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EXAMINER

GREEN, CHRISTY MARIE

ART UNIT PAPER NUMBER

3635

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,606

Applicant(s)

ROGERS, ERNEST

Examiner

Christy M Green

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION

This is a first office action for serial number 10/068606, entitled Spherical and polyhedral Shells with Improved Segmentation, filed on February 6, 2002.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: within claims 1 and 14, when applicant refers to "said segments" it is unclear if applicant is referring to the segment basic, or a partial segment...which segment is the plurality of segments referring to? Within claim 2, in regards to parts e-h, applicant refers to a first second, third and fourth interior angle, however there is no mention in the disclose of interior angles, the applicant refers only to first second, third and forth angles, where the confusion arises is when within claim 4, applicant is placing a degree value on the interior angles and in figures 3 a and 3 b, are showing a number of different angles. For example, figure 3C reference number 48 could represent an angle of 90 degrees with (wt) or an angle of greater than 90 degrees defining the segment basic as a whole. It is very unclear as to which angle is which, and it should be clarified either within the claim language or within the disclosure. Until further clarification, the examiner will interpret the claims accordingly.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within the above stated claims, the applicant refers to the widths and lengths of some segments of the invention to degree values, it is unclear how the length of a component can have a degree value, does applicant mean to refer to these degree values or amounts to be an angle instead of widths and lengths? If so, appropriate correction is necessary. Until further clarification in regards to this matter will be interpreted by the examiner accordingly.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 14, are rejected under 35 U.S.C. 102(b) as being anticipated by Tuczek, US Pataten # 6,282,849.

Tuczek discloses the claimed invention a shell of generally spherical form (figure 18) comprising a plurality of segments (57), characterized in that, the segments are

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substantially identical, have an oblong form (figure 19), and each have a generally parallelogram shape (figure 19); the shape of the parallelogram is substantially a spherical quadrilateral comprising a first long side with a first length, a second long side having a second length near to the first length, and disposed in near parallel alignment to the first long side, a first short side having a first short length, and a second short side having a second short length (see attached figure 23), a first, interior angle between the first long side and the first short side, a second interior angle between the first short side and the second long side, a third interior angle between the second long side and the second short side, and a fourth interior angle between the second short side and the first long side (see attached figure 23); the generally parallelogram shape is derived by division of a face of a spherical triacontehedron (column 4, lines 26-27) into uniform rows and columns (figure 18).

Claims 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Monson et al., US Publication number US 2002/0078635 A1.

The applied reference has a common invention with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Monson discloses the claimed invention a dome (100) of generally spherical form comprising, an inner shell (44) and an outer shell (42) each of the shells further

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comprising, a plurality of whole segments (40) having a substantially identical shape (figure 1), a plurality of partial segments (20) each of the partial segments having a shape which is a part of the shape of the whole segments (figure 2C) the whole segments (40) comprising an oblong form (figure 2C), four sides (14a-d) and a substantial uniform width (figure 2C) and a joining means (24, 26) and a spacing means (46) for holding the shells in a spaced –apart relationship (page 2, paragraph [0033]); one of the segments of the inner shell (44) is paired in radial alignment with one of the segments of the outer shell (42) and the aligned segments are held together in spaced apart relationship by the spacing means (46); a method for constructing a shell of generally spherical form comprising fashioning a plurality of substantially identical oblong segments of a generally parallelogram shape, the shape being a division of a portion of a sphere or a polyhedron (page 1, paragraph [0011], lines 1-4), joining together the oblong segments along their edges (page 1, paragraph [0011], lines 4-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuczek in view of Novak, US Patent # 3,691,704.

Tuczek discloses the claimed invention including the first long side divides the face of the spherical triacontahedron in half (column 11, lines 19-23) and the plurality of segments is sixty per whole sphere (column 10, lines 5-13), the sum of the first short length and the second short length is substantially equal to the second length of the second long side (see attached figure 23), the sum of the first interior angle and the fourth interior angle is substantially 180 degrees (see attached figure 23), the second interior angle is substantially 72 degrees, the third interior angle is substantially 120 degrees; the first interior angle is approximately 114 or 113 or 115 degrees, the fourth interior angle is approximately 66 or 67 or 65 degrees. Tuczek does not disclose the segments include underlapping portions adjacent to the shape, lines of overlap separating exteriorly exposed surfaces of overlapping segments, a joining means comprising overlapping portions of adjacent segments, generally spherical form is a portion of a sphere and the segments have a substantially uniform crosswise section, a portion of the jointing means is included within the shape and a plurality of interstitial elements positioned between the segments; each segment occupies substantially $\pi/15$ steradians of solid angle.

Novak teaches a shell of generally spherical form including segments (12) including underlapping portions (15) adjacent to the shape, lines of overlap (16) separating exteriorly exposed surfaces of overlapping segments, a joining means (column 2, lines 23-24) comprising overlapping portions (15, 16) of adjacent segments, generally spherical form is a portion of a sphere (figure 1) and the segments have a substantially uniform crosswise section, a portion of the jointing means is included

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within the shape (figures 1 and 4) and a plurality of interstitial elements (15, 16) positioned between the segments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the segments of Tuczec with the overlapping portions, lines of overlap, joining means included in the shape and interstitial elements as taught by Novak with the segments of Tuczec in order to provide mating nubs which would provide an interfitting and interlocking fit for the segments (column 1, lines 38-43). Although Tuczec discloses the claimed invention except for each segment occupies substantially $\pi/15$ steradians of solid angle, it would have been an obvious matter of design choice to provide each segment occupies substantially $\pi/15$ steradians of solid angle since applicant has not disclosed that this amount of steradians solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the segments and angles as disclosed within the reference cited.

Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monson et al.

Monson discloses the claimed invention as stated above in claims 18 and 20, including the method steps of overlapping portions of the oblong segments (page 1, paragraph [0011], lines 4-8), placing interstitial elements between the oblong segments (page 1, paragraph [0011], line 6), inserting segments including structural support elements (32) and including attachments (48) - (page 1, paragraph [0011], lines 6-8); Monson does not disclose the method step of inserting segments which include transparent parts. It would have been obvious to one having ordinary skill in the art at

the time the invention was made to provide the step of inserting segments which include transparent parts in order to provide a transparency of the panel to allow for viewers to see outside of the structure (page 3, paragraph [0035]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christy M Green whose telephone number is 703-308-9693. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Friedman can be reached on 703-308-0839. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Yvonne M. Horton
YMH

cg
August 11, 2003

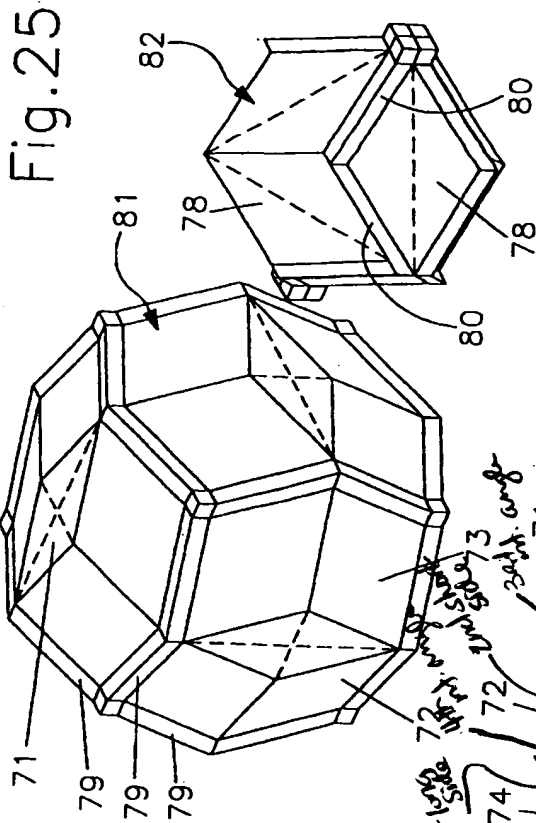


Fig. 25

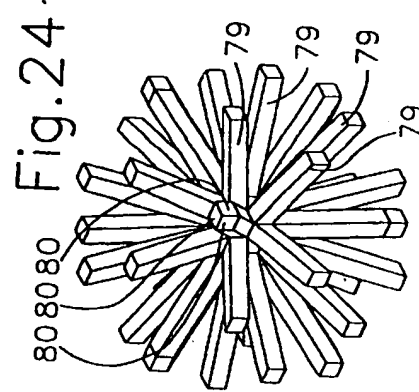


Fig. 24.

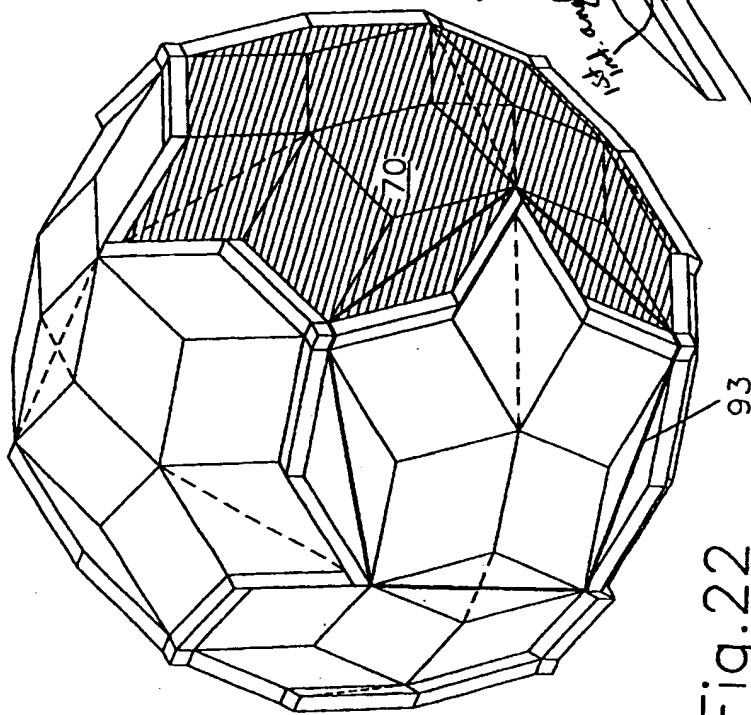


Fig. 22

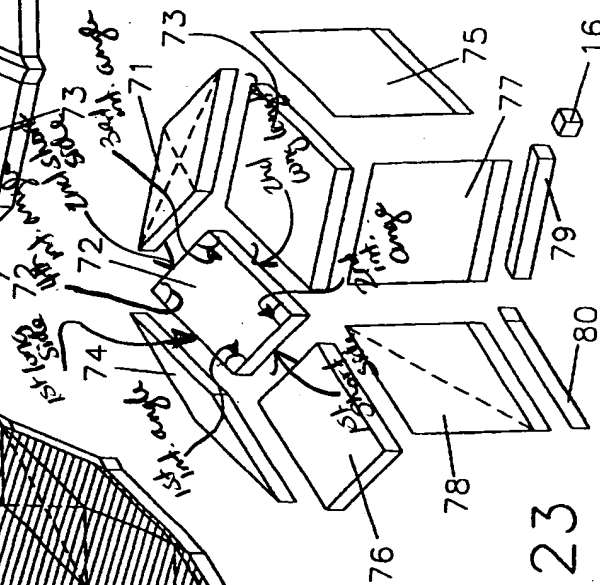


Fig. 23